

X.—On some Families of Heterocera collected in Sarawak. By G. TALBOT, F.E.S.

(With one Plate.)

The material* dealt with in this paper was collected by Dr. Mjöberg mainly on the mountains of Dulit, Murud, Poi, and Penrissen. The collections of Heterocera are of much interest as little is known of the Heterocerous fauna of these Sarawak mountains. Sixteen new forms are herein described, besides the undescribed sex of five other forms.

The types of forms described herein are deposited in the Hill Museum, Witley, Surrey, where they are available for study at any time. These types will pass into the possession of the British Museum when the Hill Museum ceases to exist.

The remaining families of Heterocera are dealt with in other papers by Mr. L. B. Prout, Miss A. E. Prout, Mr. E. Meyrick, and Prof. Janse.

The types of forms described by the first two are in the Hill Museum and those described by other authors are in their own collections.

*The Rhopalocera collected by Dr. Mjöberg were also forwarded for identification. They comprise 34 species, all well-known and for the most part common species, which need no comment.

One Lycaenid, *Lampides lividus* Druce, however, is worthy of record. A ♂ was taken on Mt. Dulit and appears to be the second specimen known. Druce described it in 1895 from Labuan. (P.Z.S., Vol. xxxii, p. 584).

AMATIDAE.

1. *CALLITOMIS MJÖBERGI* sp. n.

This species is distinct from any known form. ♂. Wings and body the colour of old gold (see Ridgeway "Color Nomencl." pl. xvi). Fore wing:—Costa narrowly black, fringe of outer margin black to below the tornus. The cell, cellule 1c from base to vein 2, and the bases of cellules 2--4 hyaline. the spots 2--4 separated from the cell by black scaling which extends over the discocellulars; cellule 6 slightly hyaline over the basal half. Veins scaled with black and some black scaling in cellule 5. Hind wing with the discal area hyaline, extending to below the submedian to half of cellule 2 and the basal part of cellule 3. Fringe black from tornus to middle of costa.

Underside fuscous, fringes and costa of fore wing black as upperside. Fore wing with markings of old gold, a narrow costal stripe, cellule 6 of this colour, the distal part of cellule 7, slight scaling in 4, marginal scaling in 3, a marginal spot in 2 and 1b. Post-discal hyaline spots in 2--4 well marked with slight distal edging of old gold. Hind wing with proximal half of costa old gold, also the proximal two-thirds of cell, a stripe in cellule 4, the inner margin and distal margin as above, but with fuscous scaling in cellule 2.

Antennae black, whitish at the tip; palpi black; frons grey-white; head, thorax and abdomen old gold. Abdomen with segments 2--4 and 7 edged with fuscous; anal tuft fuscous. Legs fuscous, femora marked with old gold.

♀. Similar to the ♂ and with a simple frenulum. Fore wing with the hyaline area below the cell broken in the middle. Spots in 2--4 less hyaline. An ill-defined post-discal fuscous band parallel to the margin from 1b to 6. Fringe of the inner margin black. Hind wing below with distal half and subcostal area fuscous. Abdomen with the basal half of ventral surface fuscous with only slight scaling of old gold.

Two specimens (6500 feet) resemble the ♂ but with larger vitreous areas.

Length of fore wing ♂ ♀ 18 mm.

Mt. Murud, 6500 feet, October—4 ♂, 2 ♀; November—2 ♂, 1 ♀.

2. AMATA ELIZA Btl.

Syntomis eliza Butl., Journ. Linn. Soc. Zool., xii, p. 377, 1876, Sarawak.

Mt. Penrissen, 3500 feet—1 ♂, 2 ♀.

3. AMATA DILATATA Snell.

Syntomis dilatata Snell., in Veth's midden-Sumatra, Lep., p. 33, 1880, Nias.

Mt. Penrissen, 3500 feet—2 ♂.

ARCTIIDAE.

NOLINAE.

4. CELAMA MARMOREA sp. nov.

Possibly a race of *tesselata* Hmp.

♀. Distinguished from *tesselata* by the narrower dark markings. Fore wing with a narrow discal band which is not conjoined to a patch on the margin. A post-discal line angled at vein 5 and joined to the discal band at vein 3. A dark subapical costal patch on the post-discal line. A large patch on the outer margin almost touching the post-discal line. The markings are dark brown as is also the fringe except at tornus. Hind wing white tinged with fuscous. Underside fuscous, hind wing whitish in basal half. Body and appendages marked as in *tesselata*.

Length of fore wing 7--5 mm.

Mt. Dulit—1 ♀.

5. CELAMA DUPLICILINEA Hmps.

Cat. Lep. Phal., ii, p. 12, pl. xviii, fig. 8, 1900, Sikkim.

Mt. Murud, 6000--6500 feet, October—1 ♂, 1 ♀; November—1 ♂.

6. CELAMA POLIA Hmps.

Cat. Lep. Phal., ii, p. 28, pl. xviii, fig. 22, 1900, Sikkim.

Mt. Murud—1 ♂.

7. CELAMA PHACOCHROA Hmpsn.

Cat. Lep. Phal., ii, p. 29, pl. xviii, fig. 24, 1900, Sikkim, Java.

Lio Matu, December—1 ♂, 1 ♀; Mein Plateau, November—1 ♂; Mt. Murud, 6000--6500 feet, October—1 ♂; November—2 ♂.

8. NOLA ARGENTALIS Mre.

Aglossa argentalis Moore, P.Z.S., p. 89, 1867, Sikkim.

Mt. Murud, 6000--6500 feet, November—1 ♂, 5 ♀.

9. NOLA TRISTICTA Hmps.

Cat. Lep. Phal., ii, p. 37, pl. xix, fig. 4, 1900, Sikkim, Assam.

Mt. Murud, 6500 feet, November—1 ♀.

10. NOLA MICROPHASMA Butl.

Cist. Ent., iii, p. 177, 1885, Japan.

Mt. Murud, 6000--6500 feet, November—1 ♀.

LITHOSIANAE.

11. LAMBULA PALLIDA Hmps.

Cat. Lep. Phal., ii, p. 100, pl. xx, fig. 18, 1900, Borneo.

Mt. Murud, 6500 feet, November—1 ♀.

Compared with the type this is a strongly marked specimen

12. TIGRIOIDES SUFFUSUS sp. nov.

Allied to *leucanioides* Walk.

♀. Fore wing greyish-white with fuscous markings. A narrow elongate spot on costa about midway. Basal half below the cell suffused with fuscous which also edges veins 2 and 3. Apical area slightly suffused to the upper angle of cell. Hind wing semi-hyaline with a brownish tinge. Antennae brown. Head pale buff; palpi yellowish-brown, terminal segment fuscous. Thorax and abdomen pale brown, legs pale brown.

Length of fore wing 14 mm.

Mt. Dulit, 3000 feet—1 ♀.

13. MITHUNA QUADRIPLAGA Mre.

P.Z.S., p. 21, 1878, Darjiling.

Mt. Murud, 6000--6500 feet, October—1 ♂; November—1 ♂, 2 ♀.

14. ILEMA PLAGIATA Walk.

Teulisna plagiata Walk., Journ. Linn. Soc. Zool., vi, p. 109, 1862, Sarawak.

Mt. Penrissen, 4400 feet—1 ♀.

15. *ILEMA CURVIPLAGA ruptifascia* subsp. nov.

♀. The curved band on the fore wing is more distinctly angled than curved at cellule 2 from whence it is straight and oblique to the margin. A less strongly-marked black post-discal band interrupted in cellule 4. and with a distal projection in cellule 3.

Hind wing fuscous, yellowish-white in the basal area. Abdomen fuscous.

Mt. Murud. 6500 feet, November—2 ♀.

16. *ILEMA BREVIPENNIS* Walk.

Cat., ii, p. 509. 1854, Ceylon.

Mt. Dulit—1 ♂.

17. *MONOSYNTAXIS TRIMACULATA* Hmps.

Monotaxis trimaculata Hmps., Cat. Lep. Phal., ii, p. 181, 1900, N. Borneo ♀.

♂ not described.

Resembles the ♂ of *holman-hunti* Hmp. from Selangor, but the collar is orange and the basal spot elongate.

Fore wing deep purplish-blue, basal orange spot elongate. Hind wing black-brown with faint purplish tinge. Underside black-brown.

Antennae brown, shortly bipectinate. Palpi orange-yellow. Head and thorax black with a dark blue sheen, collar orange. Abdomen fuscous-black above, yellow below. Pectus yellow. Fore and mid femora yellow, tibiae and tarsi bluish-black, hind legs yellow.

Length of fore wing 16 mm.

Mt. Penrissen, 4400 feet—1 ♂.

18. *AGYLLA MJOBERGI* sp. nov.

A distinct species belonging to section 1 of Hampson (Cat. Phal., 2).

♂. Fore wing dark violet-blue with a purple tinge; an orange costal stripe from the base to near the apex, but basal third of costal edge blue-black. A pale yellow spot at extreme base of inner margin. Hind wing yellow-ochraceous, paler along the costal area.

Underside of fore wing fuscous, with a yellow costal stripe, and the inner area below submedian fold paler than the ground-colour. Hind wing as above but with a black costal stripe reaching to the cell and vein 6.

Antennae fuscous-black, branches brown. Head and palpi bluish-black; tegulae orange; patagia metallic blue mixed with purple-violet. Abdomen ochraceous-yellow. Femora ochraceous-yellow; fore and mid tibiae and tarsi bluish-black; hind tibiae and tarsi ochraceous-yellow; pectus ochraceous-yellow.

♀. Resembles the ♂. Fore wing violet-grey with a pale square-shaped apical area. The costal stripe paler orange, reaching the costal edge from the base and narrowing to the apex. Hind wing paler than in the ♂.

Underside paler than in the ♂. Fore wing with the ground-colour grey, and the pale area of the upperside defined by pale-yellow.

Frons and palpi orange, vertex violet-blue.

Length of fore wing ♂ 17 mm., ♀ 19 mm.

Mt. Poi, 5200 feet—2 ♂ (Type), 1 ♀; Mt. Penrissen, 4700 feet—1 ♀ (allotype).

19. AGYLLA BISECTA Roths.

Nov. Zool., xix, p. 226, 1912, N. Borneo.

♂. Apparently undescribed.

Fore wing grey, some white scaling over the distal area between costa and vein 3; costal stripe as in the ♀. Hind wing paler than in the ♀.

Underside as in the ♀, fore wing darker, hind wing paler. Submedian with a fold showing a stripe of closely-set brown scales; the submedian area black by a mixture of black scales, and much enlarged, the inner half folded over on the underside.

Length of fore wing 18 mm.

Mt. Murud, 6000--6500 feet, November—9 ♂, 3 ♀.

20. PADENIA DUPLICANA Walk.

Tospitis duplicana Wlk., Cat. Lep. Het. B.M., xxviii, p. 429, 1863, Sarawak.

Mt. Dulit, 3000 feet—1 ♂; Mt. Poi, 2000 feet—1 ♂; Mt. Penrissen, 2000 feet—1 ♀.

21. SCAPTESYLE TRICOLOR Walk. *dentata*, subsp. nov.

♂. Fore wing with the black post-discal line more strongly angled in cellule 6, forming a well-marked tooth. The brown marginal area is a little narrower. Hind wing with a narrower marginal border which only reaches vein 2.

Mt. Murud, 6000--6500 feet, November—1 ♂.

The species is diurnal.

22. *UTRICULIFERA FUSCAPEX* Hmps.

Ill. Het., ix, p. 82, pl. 158, figs. 7, 17, 1893, Ceylon.

Mt. Poi, 4300 feet—1 ♂.

23. *CHIONAEMA CRUENTATA* sp. nov.

This species belongs to section Bb of Hampson (Lep. Phal. ii.).

♂. Fore wing with outer part of lobe large and rounded, inner part smaller and triangular. No fringe of hair on the underside. Costal fringe moderately long. Vein 4 obsolete for a short distance from the margin. Fore wing white. A sub-basal crimson band broadening on the costa; a crimson discal band edged with black on the inside and inwardly curved; a crimson post-discal band edged with black on the outside, inside edge rounded below vein 4 and fairly straight on the outside. Outer margin broadly washed with pale orange-yellow. A black dash in the end of cell and two black discocellular dots.

Hind wing white, tinged with yellow at the termen and inner margin. Underside white, tinged with yellow on the costal and apical areas. Fore wing with lobe crimson and some crimson scaling in the cell.

Head and thorax white marked with crimson; neck crimson, tegulae and patagia edged with crimson; antennae brown; palpi crimson. Legs orange-yellow marked with crimson and white; pectus and abdomen white, and tuft pale buff.

♀. Similar to the ♂ but fore wing with one discocellular spot besides the dash. Outer margin with a broad and strongly marked orange-yellow band, shading into crimson on its inner edge. Hind wing more strongly tinged with orange-yellow than in the ♂. Underside of both wings strongly tinged with dull crimson. Antennae crimson. Abdomen with the three end segments below yellow.

Length of fore wing ♂ 15--18 mm., ♀ 19.5 mm.

Mt. Poi, 5900 feet—1 ♂ (Type): 5200 feet—2 ♂, 1 ♀ (allotype).

24. *CHIONAEMA RHADOTA* Swinh. *borneensis* subsp. nov.

♀. Fore wing with a broader red marginal band. The post-discal red band is broader and almost touches the black discocellular dot. The black post-discal line straighter and very slightly curved out below vein 5.

Mt. Poi, 2000 feet—2 ♀.

25. *PARASICCIA MARGINIPUNCTA* sp. nov.

This species agrees with the genus *Hyposiccia* in having vein 11 anastomosing with 12, but the palpus is longer and reaches well to the vertex of the head. Veins 4 and 5 of the fore wing are separated at their origin.

♂♀. ♂ with antennae bipectinate with moderate branches. ♀ antenna serrate with fascicles of cilia.

Fore wing white with blackish-brown lines and spots. A dot at the base and one at base of cell. A spot on costa near base, a larger one beyond it from which runs a discal line; discal line curved outwards to edge of cell and thence straight and directed inwards to inner margin, accentuated by a dot on lower edge of cell, one on submedian, and one on inner margin. A rounded spot in middle of cell, and one on the discocellular. Two post-discal lines separated by a space less than the distance between cell-spot and discocellular spot. These lines are accentuated by costal spots from which they curve outwards to margin of cell and vein 7, thence incurved to vein 4, the inner one broken by the discocellular spots, and directed obliquely inwards to the inner margin on which they bend slightly outwards; these lines are accentuated by dots on the veins. A submarginal line of spots on the veins, the one at the apex being larger. A series of 6 marginal dots between the veins, interspace 3 without a dot. A slight brownish marginal suffusion between vein 4 and the apex. Hind wing white with a slight brown tinge.

Underside white with a brown tinge. Antennae, head, thorax, and abdomen grey-white. Palpi grey-white, black at the sides. Legs grey-white, fore and mid legs marked with black. Anal tuft of ♂ pale buff.

Length of fore wing ♂ ♀ 12 mm.

Hab. Mt. Poi, 5200 feet—2 ♂, 1 ♀ (♂ and ♀ Types); 7350 feet—1 ♀.

26. *ASURA CRUSTATA* sp. nov.

Distinct from other forms of this genus in the possession of a band of raised scales in the cell of the fore wing.

♂. Fore wing crimson mixed with yellow, but slightly rubbed. Costa and outer margin narrowly black; a black costal mark reaching the discocellulars, a second mark proximal of this but faint. Cell rather narrow and filled by a mass of raised scales having a mother-of-pearl gloss. Lower edge of cell bent outwards, giving place for a dense tuft of

short light brown hair. Hind wing yellowish-white tinged with crimson, more so on the margin. Costal edge black. fringe black to the anal angle.

Underside paler, fore wing with the black edging extended, more so at the apex.

Antennae dark brown, shaft slightly crimson above. Palpi and legs crimson. Head, thorax, and abdomen above salmon-pink, abdomen below more crimson.

Genitalia visible: Valve long, ending in a short, narrow lobe directed dorsad. Uncus long and curved to a fine point. General appearance as in other *Asura* species.

Length of fore wing 10 mm.

Mt. Dulit, 700 feet—1 ♂.

27. ASURA CUNEIFERA Walk.

Lyclene cuneifera Walk., Journ. Linn. Soc. Zool., vi, p. 113, 1862, Sarawak.

Mt. Dulit—1 ♀.

28. ASURA EUPREPIOIDES Walk.

Hypocrita euprepioides Walk., Journ. Linn. Soc. Zool., vi, p. 102, 1862, Borneo.

Mt. Poi, 4300--5300 feet—1 ♀; Mt. Penrissen, 2000 feet—2 ♀.

29. ASURA STRIGIPENNIS H.-S.

Aussereur Schmett. f. 437, 1855, Borneo.

Mt. Penrissen, 2000 feet—1 ♀; Mt. Poi, 5000 feet—1 ♀; 4800 feet—1 ♀.

30. MILTOCHRISTA SEQUENS Walk.

Lyclene sequens Walk., Journ. Linn. Soc. Zool., vi, p. 112, 1862, Sarawak.

Bakong—1 ♂; Lio Matu, December—1 ♂.

31. MILTOCHRISTA CUNEONOTATA Walk.

Ammatho cuneonotatus Walk., Cat. Lep. B.M., iii, p. 759, 1855, Ceylon.

Mt. Poi, 900 feet—1 ♀; 2000 feet—1 ♀.

32. MILTOCHRISTA CRUCIATA Walk.

Hypoepria cruciata Walk., Journ. Linn. Soc. Zool., vi, p. 101, 1862, Sarawak.

Mt. Dulit, 3000 feet—3 ♀.

33. *MILTOCHRISTA FLAVODISCALIS* sp. nov.

Allied to *mesortha* Hmps. from India, but distinguished by the rounded yellow discal spot on the fore wing, etc.

♂. Fore wing crimson; two black dots at the base and one in base of cell; an antemedial black line outcurved from costa and oblique from lower edge of cell; a discal black line oblique from the costa and joining the antemedial line in the cell, then outcurved to the submedian fold where it ends; a post-discal black line outcurved from costa to vein 5, then oblique to the margin; a large rounded yellow spot on the discocellulars; slight yellowish scaling below the cell; veins 4-9 black between the post-discal line and the margin; costal edge and fringe black. Hind wing yellowish-white with a marginal border flesh-pink, this colour slightly washed over the wings leaving the costal and a subapical area of ground-colour.

Underside of fore wing crimson, paler at base; discocellular spot distinct; some black marks on the costa, a subapical patch and a spot in 4 near the margin. Hind wing with only slight pink tinge, a dark costal spot, a large one in cellule 5 and a smaller one above and below this.

Antennae, palpi, head, thorax and legs crimson; abdomen flesh-pink.

Length of fore wing 12.5 mm.

Mt. Murud, 6000--6500 feet, November—3 ♂.

34. *MILTOCHRISTA GRATIOSA lucibilis* Swinh.

Barsina lucibilis Swinh., Cat. Het. Mus. Oxon., p. 107, pl. 3, fig. 6. 1892, Sarawak.

Miltochrista gratiosa Hmps., Lep. Phal., ii, p. 485, 1900.

Mt. Murud, 6000--6500 feet, November—1 ♂, 1 ♀; October—1 ♂.

35. *MILTOCHRISTA RUBRICOSTATA* H.-S.

Hypocrita rubrocostata Herr.-Schaff., Auss. Schmett. 1, p. 439, 1855. Borneo.

Mt. Penrissen, 3500 feet—1 ♀.

36. *SCHISTOPHLEPS FULVIA* Hmps.

Cat. Lep. Phal., ii, p. 528, 1900, Java, Sumatra, Borneo.

Mt. Dulit—2 ♀.

37. *HEMIPSILIA COAVESTRIS* Hmps.

Moths of India, ii, p. 124, 1894, Sikkim.

Mt. Poi, 5000 feet—1 ♂.

38. *DIDUGA ANNULATA* Hmps.

Cat. Lep. Phal., ii, p. 539, 1900, Sambawa.

Mt. Murud, 6300 feet, November, 1922—1 ♂.

39. *CONOSIA ASPERSA* Walk.

Journ. Linn. Soc. Zool., vi, p. 104, 1862, Sarawak.

Mt. Dulit, November—1 ♀; Mein Plateau, November—1 ♀.

40. *EUGOA BIPUNCTATA* Walk.

Lyclene bipunctata Walk., Journ. Linn. Soc. Zool., vi, p. 115, 1862, Borneo.

Mt. Poi, 4200 feet—1 ♂; 5300 feet—1 ♀.

ARCTIANAE.

41. *SPILOSOMA RUBRIVENTRIS* sp. nov.

Distinguished from most species by the abdomen being entirely red and by the absence of dorsal spots in the ♂. Most nearly related by build and general appearance to *rhodochroa* Hmps. from Java, and like this species in the semi-hyaline discal area of hind wing.

♂. Fore wing ochreous tinged with pale flesh-pink, the veins, inner and outer margin pale buff. A black point at base and one in lower part of cell; a spot above this on the costa and a similar one at upper angle of cell; two black sub-basal spots, one in the inner margin and one above it, divided by the submedian; two similar spots at the end of the post-discal line; the line slightly darker than the ground-colour but emphasized by spots divided by the veins, curved outwards from the costa at origin of vein 7 and thence inwards from vein 5; a costal spot before vein 7 one beyond vein 7 and another below this in the angle of 7; two sub-marginal rows of spots divided by the veins, the first row from the apex to vein 5, the second row from vein 3 to vein 5 near the margin; the first row is continued again at vein 2 near the post-discal line with a small spot below the vein and one on the submedian, these spots absent in one specimen.

Hind wing crimson, lower half from middle line of cell to near the margin semi-hyaline: a black spot on the upper discocellular: fringe pale yellow.

Underside of fore wing crimson, outer margin pale yellow narrowing to the tornus: a small black spot in upper angle of cell. Hind wing as on upperside.

Antennae bipectinate, black: palpus with first and second segment crimson, third black: frons black: head and thorax whitish-buff; abdomen crimson with a double lateral row of small black spots. Pectus crimson, tibiae and tarsi crimson, femora fuscous-black.

♀. Like the ♂ except that there is no black spot in angle of cell on fore wing, and on the hind wing an additional black submarginal spot in 1c near vein 2. Abdomen with a thin black dorsal line. Underside of fore wing with the apical and submarginal spots distinct.

Length of fore wing ♂ 25 mm., ♀ 32 mm.

Mt. Murud, 6000-6500 feet, November—3 ♂, 1 ♀.

42. *SPILOSOMA STRIGATULA* Walk.

Arctia strigatula Walk., Cat. Lep. Het. B.M., iii, p. 613, 1855, Java.

Mt. Dulit, 700 feet (?)—1 ♀.

43. *CREATONOTUS TRANSIENS* f. *vacillans* Walk.

Amphissa vacillans Walk., Cat. Lep. Het. B.M., iii, p. 685, 1855, N. Indies.

Pah Trap, November—2 ♂.

LIPARIDAE.

44. *LEUCOMA SUBMARGINATA* Walk.

Cat., iv, p. 826, 1855, India.

Mt. Poi, 4300 feet—1 ♂; Mt. Murud, 6000-6500 feet, November—1 ♂.

45. *LEUCOMA DIVISA* Walk.

Cat., iv, p. 836, 1855, N. India.

Mt. Poi, 4500 feet—2 ♂; 4300 feet—1 ♂.

46. *IDALIA SERICEA* Moore.

Proc. Zool. Soc., p. 600, 1877, Andamans.

Bakong—1 ♀.

47. *NYGMIA XANTHOMELA* Walk.

Journ. Linn. Soc. Lond. Zool., vi. p. 128, 1862, Sarawak.

Mt. Murud, 6000--6500 feet, November—1 ♂.

48. *NYGMIA LYCLENE* Swinh.

Euproctis lycleene Swinh., Trans. Ent. Soc., p. 144, 1904, Kuching.

Mt. Poi. 4500 feet—1 ♂ (neallotype).

The female type from Kuching is apparently the only known specimen. We therefore describe the ♂.

♂. Fore wing without the black spot at end of cell. A yellow discal line formed of four spots, one on the costa, one in the cell near vein 2, one below this shifted in, one below this on the submedian, and another from the submedian to inner margin. Some sub-basal yellow spots, the one on the inner margin most distinct. These yellow markings are faintly seen in the type ♀ which is rubbed, but no mention is made of them in the original description.

49. *NYGMIA SEXMACULA* Swinh. ♂ ?

Ann. Mag. Nat. Hist., 7, xii, p. 195, 1903, Kinabalu, ♀.

This species is very like the ♀ *sexmacula* and may possibly be its ♂.

Fore wing with a post-discal line of spots fuscous-black, slightly indicated above vein 5, the spot in 4 the larger, the one in 2 the smaller, and the spot between vein 2 and the margin curved outwards. A sub-basal spot above the submedian. Hind wing with the basal two-third fuscous, leaving a pale orange marking.

Fore wing below with a fuscous stripe between vein 2 and the inner margin, reaching the base and subcostal and to within a third from the outer margin.

Length of fore wing 19 mm.

Pah Trap, 3000 feet, November—1 ♂.

50. *NYGMIA ORMEA* Swinh.

Trans. Ent. Soc., p. 426, 1903, S.E. Borneo.

Mt. Poi, 5200 feet—1 ♀.

51. *NYGMIA SARAWACENSIS* sp. nov.

Possibly a race of *nigribasalis* Swinh., Trans. Ent. Soc., 1903, p. 397, Kinabalu.

♀. Differs from the ♀ type of *nigribasalis* in its much larger size, the fuscous area of the hind wing more extended, and only a faint discocellular mark on the fore wing.

Fore wing grey-white. Hind wing with the basal two-thirds fuscous.

Underside of fore wing with the basal two-thirds fuscous, distally nebulous. Hind wing with the basal half to a little beyond cell fuscous. Antennae with the shaft grey, branches fuscous. Palpi fuscous; head and thorax rufous; abdomen fuscous; legs pale fuscous.

Length of fore wing 26--28 mm.

Mt. Murud, 6000--6500 feet, October—2 ♂, 1 ♀ (Type).

52. *NYGMIA CALESIA* Swinh. *nigrifascia* subsp. nov.

Differs from *calesia* in the fore wing having a black discal band of variable width, and a black sub-basal spot on inner margin which just enters the cell. The post-discal band is contracted in cellule 2 and does not reach the costa. Hind wing with the yellow marginal border reduced to a thin line which does not reach the anal angle.

Mt. Poi, 5000 feet—1 ♂ (Type); Mt. Penrissen, 3500 feet—1 ♂; 2000 feet—1 ♀ (allotype).

This species is diurnal.

53. *NYGMIA CINCTA* Swinh.

Ann. Nat. Hist., 7, xvii, p. 541, 1906, Borneo.

Pah Trap, 3000 feet, November—1 ♂.

54. *NYGMIA FUNERALIS* Swinh.

Trans. Ent. Soc., p. 421, 1903, Singapore.

Mt. Poi, 4500 feet—1 ♂.

55. *ORGYIA COSTIPLAGA* Walk.

Journ. Linn. Soc. Lond. Zool., vi, p. 126, 1862, Sarawak.

Mt. Poi, 4500 feet—1 ♂.

56. *DASYCHIRA MENDOSA* Hbn.

Zutr. Exot. Schmett., ii, p. 19, figs. 293, 294, 1823, Ceylon.

Mt. Poi, 4400 feet—1 ♂.

NOTODONTIDAE.

57. STAUROPUS PULVERULENTUS sp. nov.

Distinct from other forms known to me.

♀. Fore wing with grey-white ground-colour thickly irrorated by black scales. A dark basal area defined by two waved sub-basal lines. A black discal line of dots on the veins, the upper part excurved beyond the discocellulars and forming a black line to vein 3, a faint curved mark joining the dots on 3 and 2, a dot below 2 on the submedian fold, one on the submedian more distal, and one on the margin a little proximal of the preceding. A post-discal line of dots on the veins, the upper row at right angles to the costa to vein 3, thence parallel to the outer margin and converging to the discal line. An irregular submarginal line emphasised by a faint grey-white outer edge. Fringe grey-white with black dots at the veins. The discal area between the sub-basal and post-discal lines paler in colour than the rest. Hind wing grey-white, the veins and a marginal border pale fuscous. Marginal band from base of costa to anal angle broad at the apex and reaching behind the fork of veins 6 and 7, and becoming linear below vein 3. Inner margin slightly fuscous. Fringe grey-white interrupted at the veins by the fuscous margin.

Underside of fore wing fuscous-brown more chestnut-coloured on the costa. Costal edge grey-white, spotted near the apex. Area 1a grey-white.

Hind wing as on upperside, costa fringed with grey-white hair.

Palpi grey-white, first and second segments dark brown on the outside. Antennae dark brown with slight grey-white scaling. Head and thorax grey-white irrorated with chestnut-brown. Abdomen fuscous-brown above, with thin dorsal line, grey-white below. Pectus grey-white. Legs grey-white banded with black.

Length of fore wing 28 mm.

Mt. Murud, 6000--6500 feet, October—1 ♀.

58. SPHINGOGNATHA PALLIDA Walk.

Cat. iv, p. 912, 1855, Silhet.

Mt. Murud, 6000--6500 feet, October—1 ♂; November—1 ♀.

This species is variable and extends to Sumatra.

The ♀ is dark ochreous-brown with well-defined lines and a rounded hyaline discal spot on fore wing.

59. TAGORA GLAUDESCENS Winkl. *obsoleta* subsp. nov.

♂. Distinguished from the typical form by the absence of the marginal line on the hind wing above, and by the underside having only a trace of the post-discal lines without other markings. The glaucous scaling in the distal areas of both wings is more hoary than bluish.

Mt. Murud, 6000--6500 feet, October—1 ♂; November—2 ♂.

DREPANIDAE.

60. ALBARA OLIVACEA Warr.

Seitz. Macrolep., x, p. 469, t. 494, 1922, Khasia Hills.

Mt. Murud, 6500 feet, November—1 ♂.

61. STREPSIGONIA PUSTULARIA Walk.

Cat. xxiii, p. 938, 1861, Sarawak.

Mt. Murud, 6000--6500 feet, November—1 ♂.

62. DRAPETODES NUMMULARIA Snell.

Tijdschr. Ent., xxxii, p. 11, pl. 1, figs. 4, 4a, 1889, Java.

Mt. Poi, 2000 feet—1 ♀.

63. DRAPETODES MATULATA Feld.

Reise Nov. Lep., v, t. 134, fig. 44, 1876, Java.

Mt. Penrissen, 3500 feet—1 ♂.

LIMACODIDAE.

64. CONTHEYLA CHARA Swinh.

Ann. Mag. Nat. Hist., 7, (vii), p. 464, 1901, Sarawak.

Mt. Murud, 6000--6500 feet, November—1 ♂.

65. CANIA BANDURA Moore.

Cat. Lep. Mus. E.I. House, ii, p. 417, t. 11a, fig. 9, 1859, Java.

Bakong—1 ♂.

66. THOSEA UNIFASCIA Walk.

Cat. v, p. 1068, 1855, E. Indies.

Mt. Penrissen, 4400 feet—1 ♂; Mt. Murud, 6000--6500 feet—1 ♂; November—1 ♂.

67. THOSEA VETUSTA Walk.

Journ. Linn. Soc. Lond. Zool., vi, p. 198, 1862, Sarawak.

Pah Trap, November—1 ♂.

68. DARNA METALEUCA Walk.

Journ. Linn. Soc. Lond. Zool., vi, p. 126, 1862, Sarawak. = *basalis*
Walk., 1. c., p. 172.

Mt. Dulit—1 ♂.

URANIIDAE.

69. NYCTALEMON HECTOR Walk.

Cat. vii, p. 1771, 1856, Borneo.

Baram, February—1 ♂.

70. URAPTEROIDES ASTHENIATA Guen.

Sp. Gen. Lep., x, p. 24, No. 925, 1857, Borneo.

Bakong—1 ♂.

71. MICRONIA STRIATARIA Clerck.

Icones ii, pl. 1v, 1764.

Mt. Penrissen, 3500 feet—1 ♀.

72. STROPHIDIA FASCIATA Cram.

Pap. Ex., ii, p. 12, pl. civ, fig. D., 1777, Batavia.

Mt. Poi, 2000 feet—1 ♀.

EPIPLEMIDAE.

73. EPIPLEMA LABECULA Swinh.

Trans. Ent. Soc., 1902, p. 595, Pulo Laut.

Mt. Poi, 5000 feet—1 ♂; 4300 feet—1 ♂; 2000 feet—1 ♀.

74. EPIPLEMA NIGRIFRONS Hmps.

Moths of India, iv, p. 549, 1896, Burma.

Mt. Penrissen, 2400 feet—1 ♀.

ZYGAENIDAE.

75. ETERUSIA DICHROA Jord.

Seitz. Macrolep x, p. 33, 1908, Assam.

Between Roemah Tamaboperak--Lio Matu, December—1 ♂.

76. CYCLOSIA MACULARIA Guér.

Deless. Suov. Ind., p. 83, t. 25, fig. 2, 1843, Borneo.

Bakong—1 ♂.

77. *CYCLOSLIA ELECTRA* Swinh. ♀.

Ann. Mag. Nat. Hist., 7, (15), p. 149, 1905, Penrisen & Santubong, Borneo.

♀. Fore wing black. A creamy-white stripe on the inner margin, the submedian not black. A sub-apical band of lemon yellow, whitish on the inner edge, constricted at vein 5, and extending from the costa to vein 2. Hind wing creamy-white with a black marginal border from the apex to vein 2.

Underside similar to the upper. Fore wing with a narrow white stripe from the base of cellule 1c to vein 2 at its middle and merged with the large stripe along the submedian; above this stripe to the costa, the basal area is greenish-blue. Greenish-blue submarginal streak in cellules 5--7 and small spots in 10--4. Hind wing with greenish-blue spots in 2--6 within the marginal black. Fringes black, slightly white at apex of both wings. Legs white striped above with greenish-blue.

Length of fore wing 26 mm.

Mt. Penrisen, 4400 feet—1 ♀.

Dr. Jordan kindly informs me, when seeing this insect, that there is a ♂ and ♀ in the Tring Museum. It appears that the ♂ is variable and as the ♀ described is from the type locality it is unlikely to be different.

COSSIDAE.

78. *CHALCIDICA MINEUS* Crm.

Pap. Exot., ii, p. 52, t. 131, fig. D., 1777, E. Indies.

Baram, February—1 ♂.

Explanation of Plate 6.

HETEROCERA.

- Fig. 1. *Nygmia sexmacula*, Swinh. ♂ Neallotype.
 ,, 5. *Callitomis mjobergi*, Talb. ♂ Type.
 ,, 6. *Chionaema rhadota borneensis*, Talb. ♀ Type.
 ,, 7. *Chionaema cruentata*, Talb. ♀ Allotype.
 ,, 11. *Mitlochrista flavodiscalis*, Talb. ♂ Type.
 ,, 13. *Monosyntaris trimaculata*, Hmps. ♂ Neallotype.
 ,, 17. *Nygmia calcsia nigrifascia*, Talb. ♂ Type.
 ,, 18. *Ilema curviplaga ruptifascia*, Talb. ♀ Type.
 ,, 19. *Scaptosyle tricolor dentata*, Talb. ♂ Type.
 ,, 23. *Stauropus pulverulentus*, Talb. ♀ Type.
 ,, 25. *Agylla mjobergi*, Talb. ♂ Type.



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